

Work Order ID 62904

Wednesday, October 13, 2010 9:05:11 AM

Page 1

Item ID: D350-636-016

Accept

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 10/13/2010 Start Qty: 1.00

Required Date: 10/22/2010 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan:

Date: 10/10-13

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4168

A

IIN-D350-636

H

100

0.00



DC

Document Control

DOCUMENT CONTROL

Memo

0.00

Photocopy blue file and type labels per PPP D350-636-016 CHG 001

Sidulus

for BG 10-11-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Run Start



Stop



Sequence ID/
Work Center ID

Operation
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Set Up/
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Tool #

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Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

from bending as per QSI 004

A/R Aluminum Rod batch: ☐ m115778

11-Grind welds flush as per Dwg D4168

DP

BE 10/10/14
10/10/15

120



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

Solulq

130



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Solulq

(H)

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QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140



HandFinish

Chemical Conversion Coat per QSI005 4.1

0.00

DP

10-11-3

Memo

0.00

Hand Finishing

150



QC

QC3- Inspect Part Finish

0.00

BE Ø 10-11-03

Memo

0.00

Quality Control

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160



Skidtubes

Skidtubes

Skidtubes

Memo

-0.00

1-Open up holes of Detail L and ground handling to 0.625" (total of 8 holes per side)
as per dwg D4168.

2-Open up holes of Detail K to 0.750" (total of 4 holes per side)
as per dwg D4168.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail K,L, ground handling and float holes per dwg D4168
(welding instructions on sheet 9)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R ☐☐☐ Sikaflex-291 batch: 115114 ☐☐☐
exp. date: 11/01/30

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D4168 & QSI004
(welding instructions on sheet 8)

A/R ☐☐☐ Aluminum Rod batch: M115778

9- At section AP-AP drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D4168

10-11-3

BB

10/11/03

BE 10/11/04
BE 10/11/04

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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D4168

BE 10/14/04

11

C-BORE SECTION

CH-CH

4PL

BE 10/14/04

12-Deburr holes

BE 10/14/04

170

QC10- Inspect visual per QSI004- ground welds

0.00

BE 10/14/04

QC

Memo

0.00

Quality Control

180

QC5- Inspect part completeness to step on W/O

0.00

BE 10/14/04

QC

Memo

0.00

Quality Control

take foto wear plates on

fit no great but works

~~but what else to do~~

Dart Aerospace Ltd

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Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

190



HandFinish

Pressure Wash per QSI005 4.3

0.00

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 BR 10-10-5

200



Powdercoat

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

Powder Coating

START TIME: 9:30

OVEN TEMPERATURE: 300°

FINISH TIME: 10:00

1 BR 10-11-5

210



QC

QC3- Inspect Part Finish

0.00

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

1 BR 10-11-08 (1)

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220



HandFinish

Hand Finishing

HandFinishing

Memo

1- Install inserts as per Dwg D4168

0.00

0.00

AB 10 11 08 ①

230



HandFinish

Hand Finishing

HandFinishing

Memo

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch:

N/A

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D4168

SIKA FLEX 241

BATCH: 13115114

EXP DATE: 11/01

4-assemble o-ring to plug as per dwg D3492 and apply o-ring lube

A/R 55-o-ring lube batch: M114189

5-Coat all exposed fasteners with "LPS Procyon"

batch: M114596

0.00

AB

AB

AB

AB 10.11.08 ①

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Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8/10/10

(H)

Quality Control

250

Pick Kit

0.00



Packaging

Memo

0.00

10/11/10

Packaging

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

8/10/10

(H)

Quality Control

*****ensure antiseize is on AN8C21A bolts*****

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD350-636-016 Location: <u>craft</u> PPP rev: <u>craft</u>								
280 	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

10/11/08

10/11/08

MF
10-11-08

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 10/13/2010


Required Date: 10/22/2010

Start Qty: 1.00


Required Qty: 1.00

Comments: IPP rev:A 10.09.28 new issue DD verf:EC


Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3490-1		Manufactured	No			160	Each	123.0000	4	4			
													
Cross Bolt Spacer													

Location	Loc Qty	Loc Code
LG	123	
59424	3	
61217	30	
62450	90	

D3490-3		Manufactured	No			160	Each	39.0000	4	4			
													
Cross Bolt Spacer													

Location	Loc Qty	Loc Code
LG	39	
60294	1	
61218	1	
62451	37	

AN3C34A		Purchased	No			230	Each	17.0000	1	1			
													
BOLT													

Location	Loc Qty	Loc Code
ST353	17	
115767	17	

4 BE 10/11/10

4 BE 10/11/10

1 10/11/10

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Start Qty: 1.00

Required Qty: 1.00

AN3C36A

Purchased No

230 Each

115.0000

4

4



BOLT



10/11/10

Location

Loc Qty

Loc Code

ST353

115

109771

10

115358

15

115518

40

115882

50

✓

AN3C37A

Purchased No

230 Each

60.0000

1

1



BOLT



M110396 10/11/10

Location

Loc Qty

Loc Code

ST354

60

114761

10

114801

50

AN3C42A

Purchased No

230 Each

104.0000

1

1



BOLT



10/11/10

Location

Loc Qty

Loc Code

ST354

104

106169

4

106176

100

1

D3488-042

Manufactured No

230 Each

8.0000

1



Blade Fitting Assembly, RH



10/11/10

Location

Loc Qty

Loc Code

FP008

8

59643

8

1

Dart Aerospace Ltd

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Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

D3873-1

Manufactured No

230

Each

95.0000

7 7



Bushing

Location

Loc Qty

Loc Code

ST092

40

62197

40

ST093

55

57615

55

D4154-041

Manufactured No

230

Each

3.0000

1



Wearplate Assembly

Location

Loc Qty

Loc Code

FG

3

62196

3

D4170-1

Manufactured No

230

Each

8.0000

4



Bushing

Location

Loc Qty

Loc Code

LG

8

62251

8

D4171-1

Manufactured No

230

Each

0.0000

1



Bushing

10/11/08

7

10-11-08
B63330

4 BE 10/11/04

B6270 10/11/08

Dart Aerospace Ltd

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Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

MS21043-3

Purchased

No

230

Each

2,564.000

5

5



Nut

10/11/10

Location

Loc Qty

Loc Code

FG

76

103691

76

ST301

2488

111383

23

112314

2465

NAS1149C0363R

Purchased

No

230

Each

5,796.000

9

9



Washer

10/11/10

Location

Loc Qty

Loc Code

ST297

5796

113524

146

113644

150

113889

500

114742

5000

NAS1515H3L

Purchased

No

230

Each

380.0000

4

4



WASHER

10/11/10

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

340

111819

94

113362

246

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Shop Packet Print

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Start Qty: 1.00

Required Qty: 1.00

AN960JD816

Purchased No

250 Each

127.0000



1/2" washer, Alum

Location

Loc Qty

Loc Code

ST348

127

106043

127

D2744

Manufactured No

110 Each

14.0000



Cap

Location

Loc Qty

Loc Code

LG

14

59198

14

D2600-3-BENT

Manufactured No

110 Each

17.0000



Extrusion Bent

Location

Loc Qty

Loc Code

LG

17

61634

7

62594

10

D2743

Manufactured No

160 Each

214.0000



Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

214

50281

10

57953

2

59111

95

61844

107

D2739

Manufactured No

160 Each

0.0000



350 I Beam

362688

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Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, October 13, 2010 9:05:16 AM

Work Order ID: 62904

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 10/13/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225

Purchased

No

230

Each

4,870.000

4

4



Insert

Location

Loc Qty

Loc Code

PK011

4870

110768

4870

230

Each

17.0000

8

8

D3492-041

Manufactured

No



Plug Assembly

Location

Loc Qty

Loc Code

FP013

17

59114

1

61311

16

230

Each

30.0000

1

1

AN8C35A

Purchased

No



BOLT

Location

Loc Qty

Loc Code

FP

1

110847

1

ST346

29

114442

5

115188

24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Wednesday, October 13, 2010 9:05:16 AM

Work Order ID: 62904



Parent Item: D350-636-016



Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 10/13/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased No

230 Each

85.0000

4

4



10/11/10

BOLT

Location

Loc Qty

Loc Code

FG

2

103964

2

ST344

83

111649

2

114653

1

114941

75

115030

5

4

MS21083C8

Purchased No

230 Each

99.0000

1

1



10/11/10

NUT

Location

Loc Qty

Loc Code

ST303

99

113845

5

114934

3

115594

41

115884

50

1

D3631-1

Manufactured No

230 Each

387.0000

8

8



10/11/10

Washer

Location

Loc Qty

Loc Code

ST072

113

60755

113

ST076

274

52693

206

54388

68

8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Picklist Print

Page 8

Wednesday, October 13, 2010 9:05:16 AM

Work Order ID: 62904

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 10/13/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

AN960C10L NAS1149C0332 Purchased No

230 Each 29.0000 4 4



washer



M115698 sf 10/11/8sf

Location

Loc Qty

Loc Code

ST245

29

107534

29

D2745 Manufactured No

230 Each 189.0000 8 8



Bushing



10/11/8sf

Location

Loc Qty

Loc Code

ST023

189

52311

5

59112

4

61203

76

61988

104

90 AN960C816L NAS1149C0332 Purchased No

230 Each 0.0000 1 1



WASHER



M114915 10/11/8sf

D3492-043 Manufactured No

230 Each 35.0000 8 8



Plug Assembly



BC2663 10/11/8sf

Location

Loc Qty

Loc Code

FP

2

54682

2

FP013

33

59117

1

59190

4

61842

28

Y

Wednesday, October 13, 2010 9:05:16 AM

Shop Packet Print

Page 8

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, October 13, 2010 9:05:16 AM

Work Order ID: 62904

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 10/13/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C6A Purchased No 230 Each 261.0000 4 4
BOLT



10/11/10

Location Loc Qty Loc Code

ST351 261
111982 261

MS21043-6 Purchased No 230 Each 634.0000 4 4
NUT



10/11/10

Location Loc Qty Loc Code

ST301 634
112314 634

D3493-1 Manufactured No 250 Each 44.0000 2 2
Washer



10/11/10

Location Loc Qty Loc Code

ST062 40
61672 40
ST065 4
60873 4

MS21083C8 Purchased No 250 Each 99.0000 1 2
NUT



10/11/10

Location Loc Qty Loc Code

ST303 99
113845 5
114934 3
115594 41
115884 50

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 10

Wednesday, October 13, 2010 9:05:16 AM

Work Order ID: 62904



Parent Item: D350-636-016



Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 10/13/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

AN8C21A

Purchased No

250 Each

53.0000



BOLT



2 2
calculated

Location

Loc Qty

Loc Code

ST345

53

113558

1

114653

12

115723

40

2

D2741

Manufactured No

250 Each

35.0000



Blade, 350 Skidtube



10/11/10

Location

Loc Qty

Loc Code

ST466

35

60210

35

1

Wednesday, October 13, 2010 9:05:16 AM

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Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149CO363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149CO332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149CO832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- WELD PER DART QSI 004
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
- POWDER COATING WITH MEK DEGREASER
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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SUBMIT
V
W
NO. 02904
BS 10-10-03

RELEASED
2010-09-15

A		NEW ISSUE		SC	10.08.09
REV.	DESCRIPTION			BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.			
DRAWN	SC	PORT HADLOCK, WA			
CHECKED		DRAWING NO.	REV. A		
MFG. APPR.		D4168	SHEET 1 OF 11		
APPROVED		TITLE	SCALE		
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS		
DATE	10.08.09				
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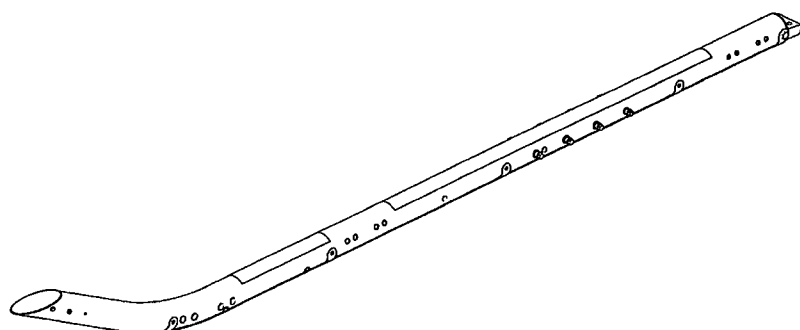
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

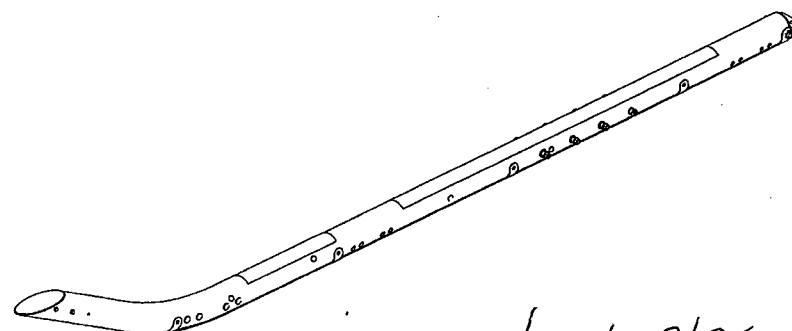
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4168-041 350 SKIDTUBE ASSEMBLY, LH



D4168-042 350 SKIDTUBE ASSEMBLY, RH

w/o 622/36
42904

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2010-09-15
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DRAWN	SC	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 2 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	350 SKIDTUBE ASSEMBLY	NTS
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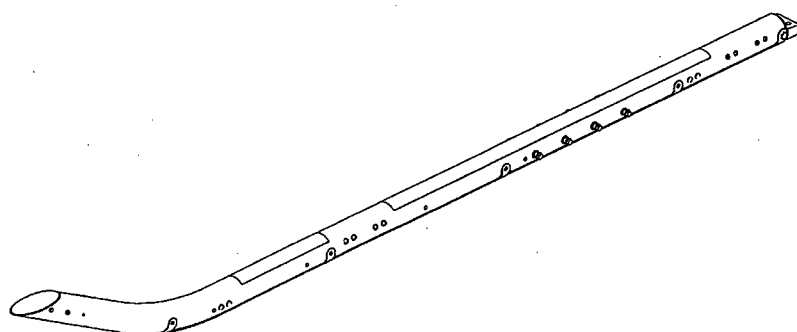
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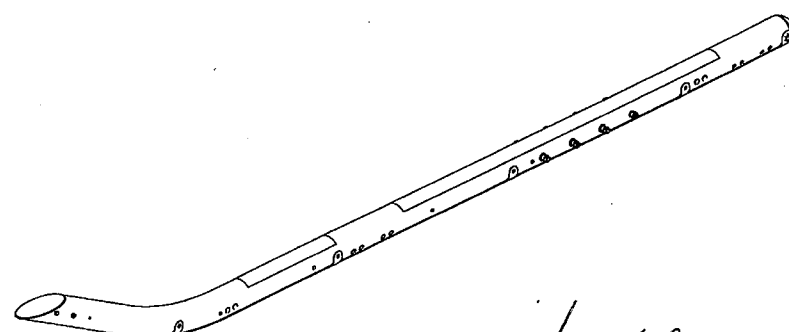
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4168-043 350 SKIDTUBE ASSEMBLY, LH



D4168-044 350 SKIDTUBE ASSEMBLY, RH

*w/o 62436
62909*

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2010-09-15

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CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D4168	SHEET 3 OF 11
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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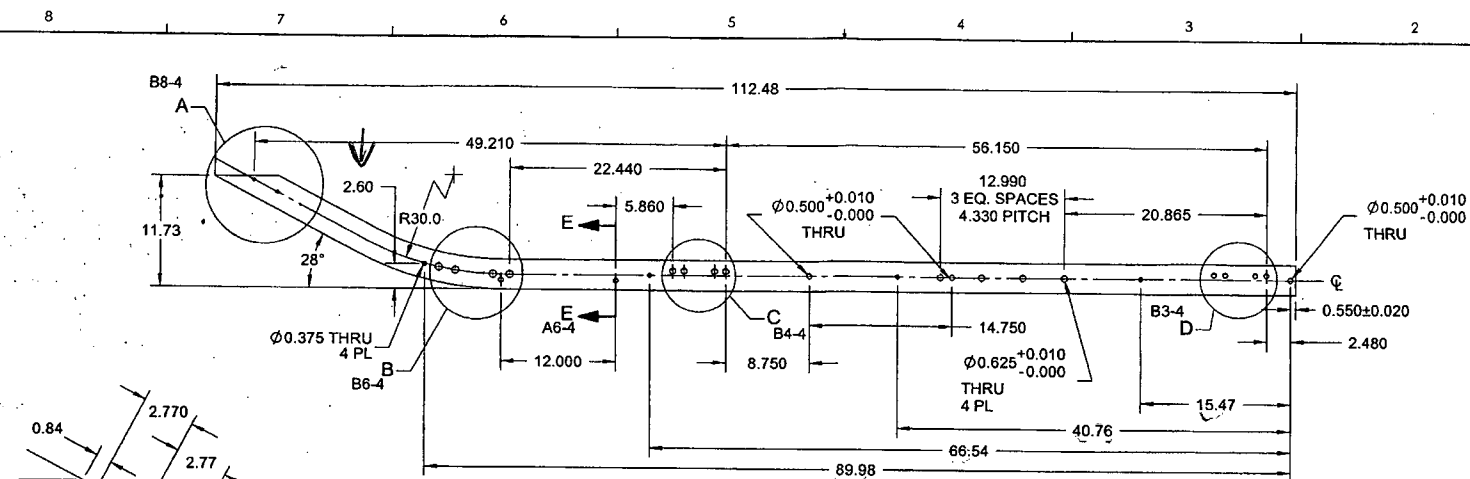
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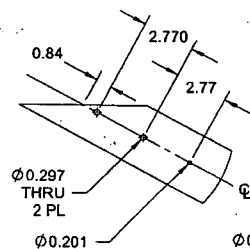
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

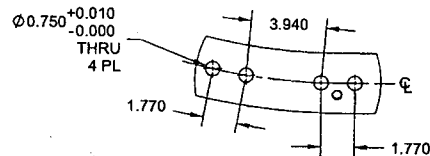
NOTE: Date & initial all entries



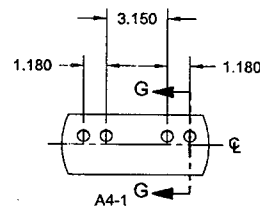
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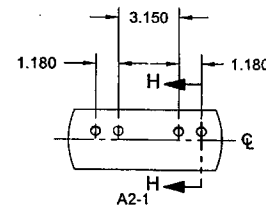
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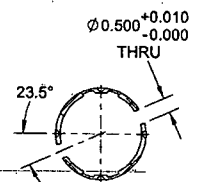
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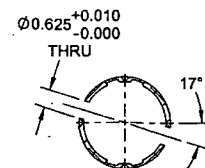
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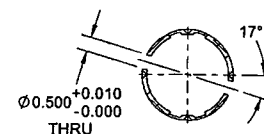
DETAIL D
SCALE 2X



SECTION E-E
SCALE 3X, 2 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

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MFG. APPR.		D4168	SHEET 4 OF 11
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W/062435
W2904

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2010-09-15

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

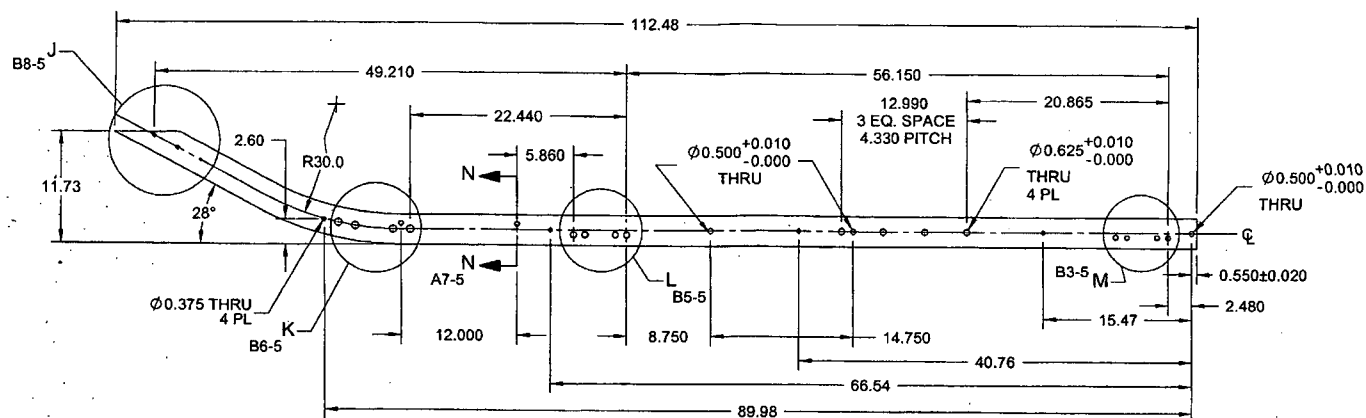
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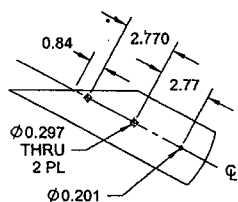
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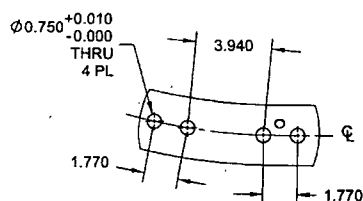
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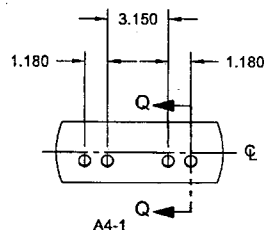
D4168-2 RH SKIDTUBE



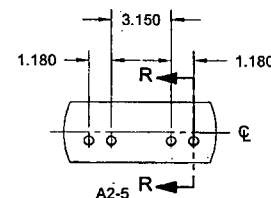
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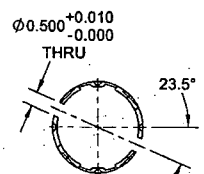
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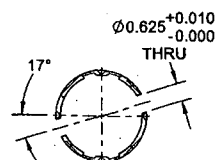
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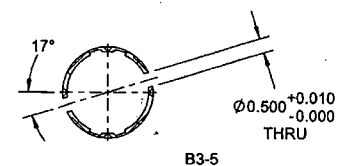
DETAIL M
SCALE 2X



SECTION N-N
SCALE 3X, 2 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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DRAWN	SC	PORT HADLOCK, WA	
CHECKED	SC	DRAWING NO. D4168	REV. A
MFG. APPR.	SC	SHEET 5 OF 11	
APPROVED	SC	TITLE	SCALE
DE APPR.	SC	350 SKIDTUBE ASSEMBLY	
DATE	10.08.09	NTS.	

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L2904*

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2010-09-15
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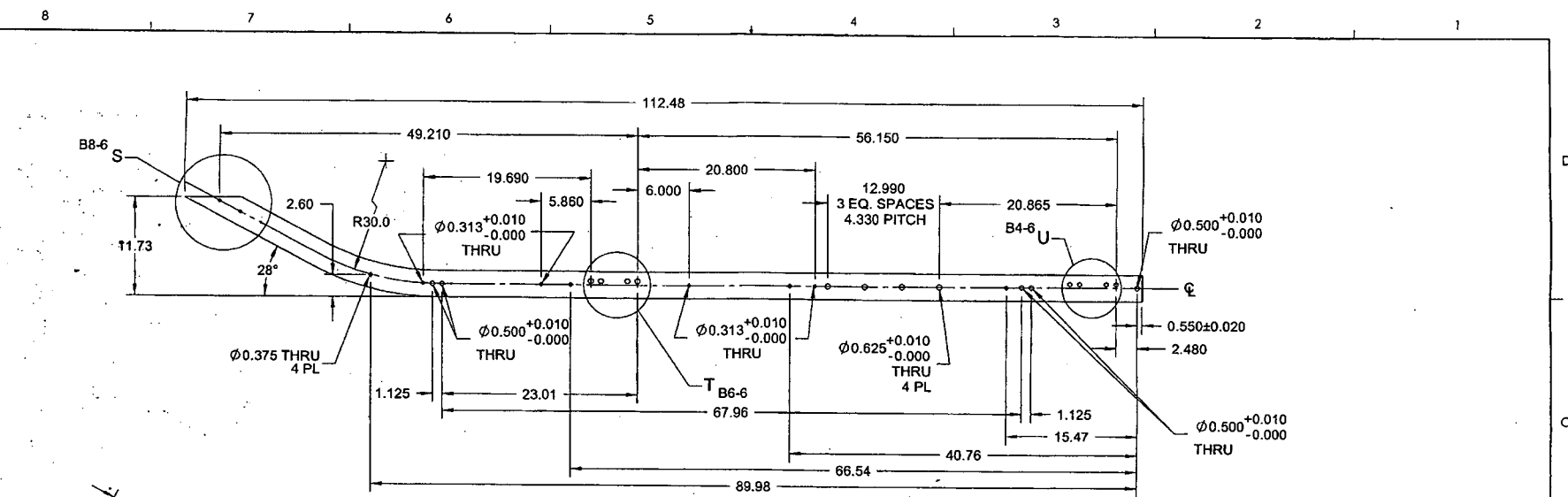
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

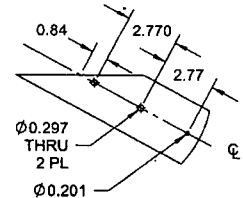
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

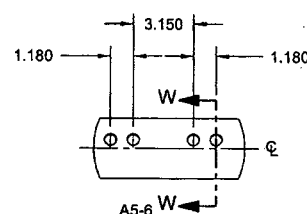
NOTE: Date & initial all entries



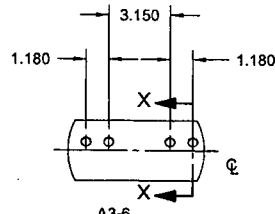
D4168-3 LH SKIDTUBE



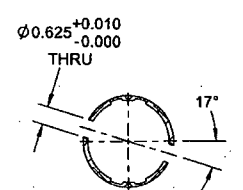
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SCALE 2X



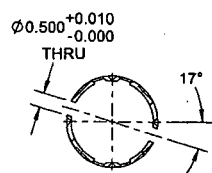
DETAIL T
SCALE 2X



DETAIL U
SCALE 2X



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

*w/o 42435
42904*

RELEASED
2010-09-15

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 6 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

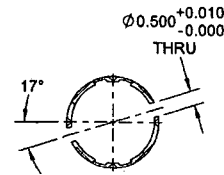
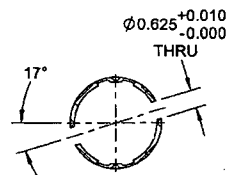
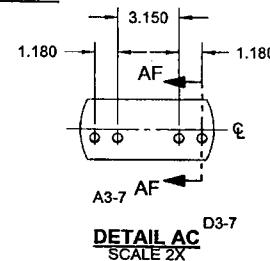
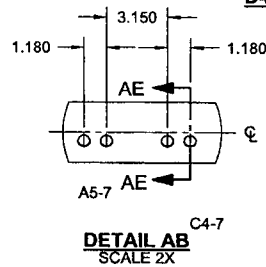
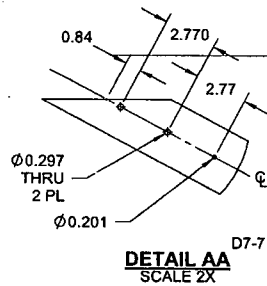
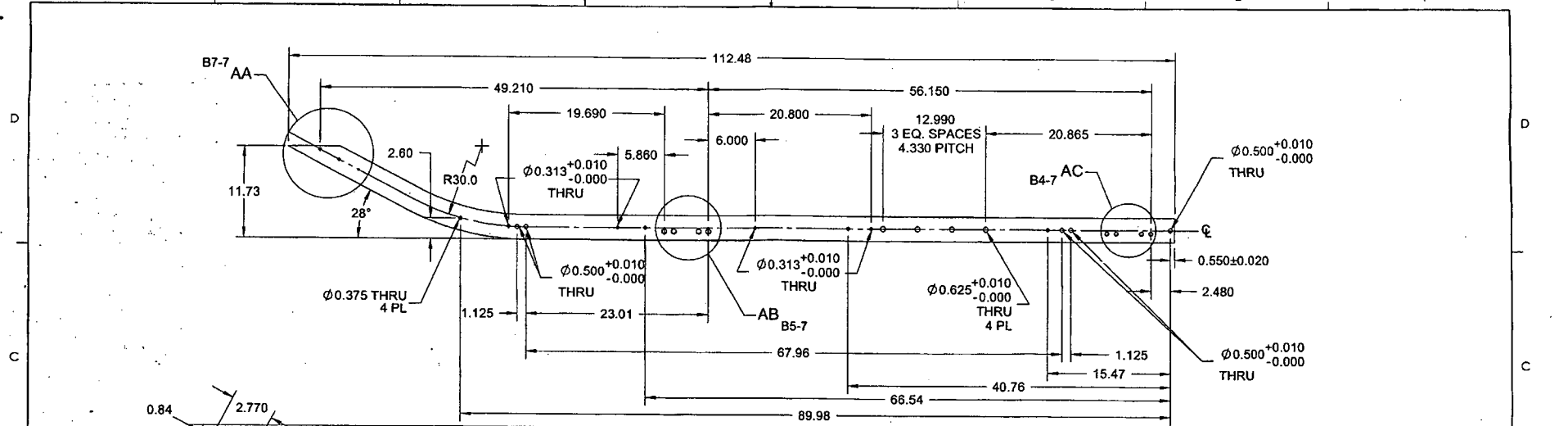
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1



*w/o 62436
62904*

RELEASED
2010-09-15

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 7 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

8 7 6 5 4 3 2 1

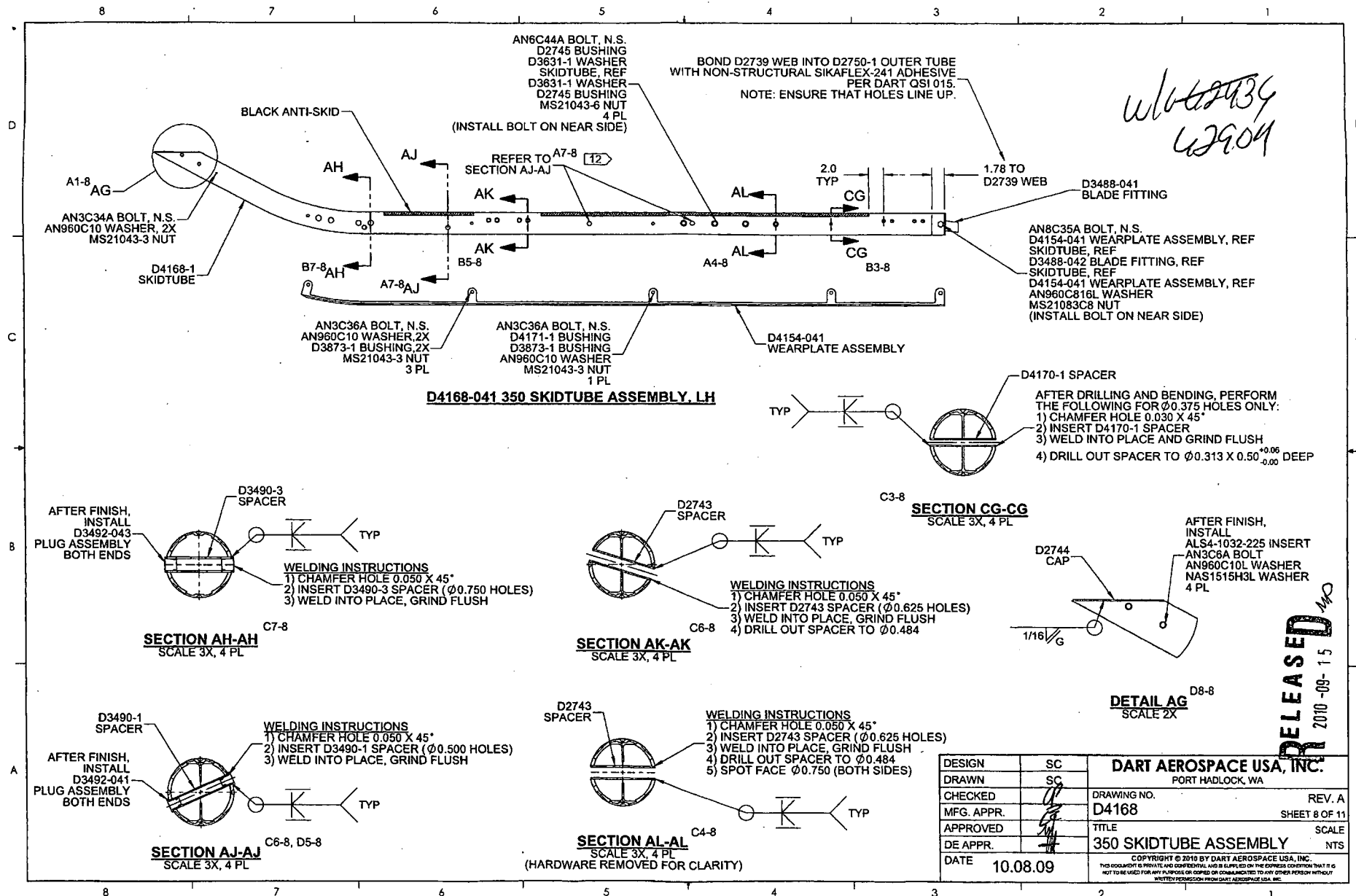
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NOTE: Date & initial all entries



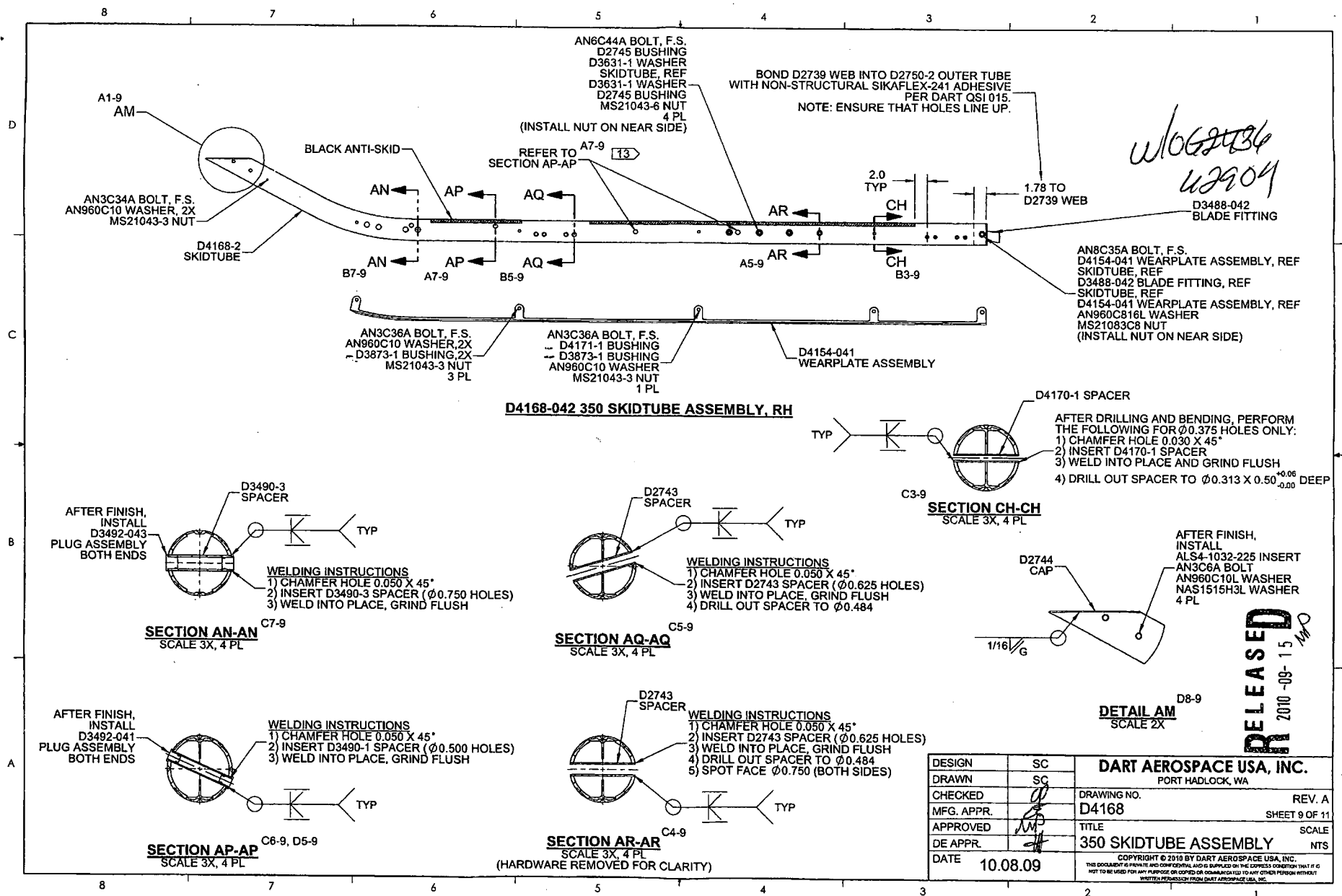
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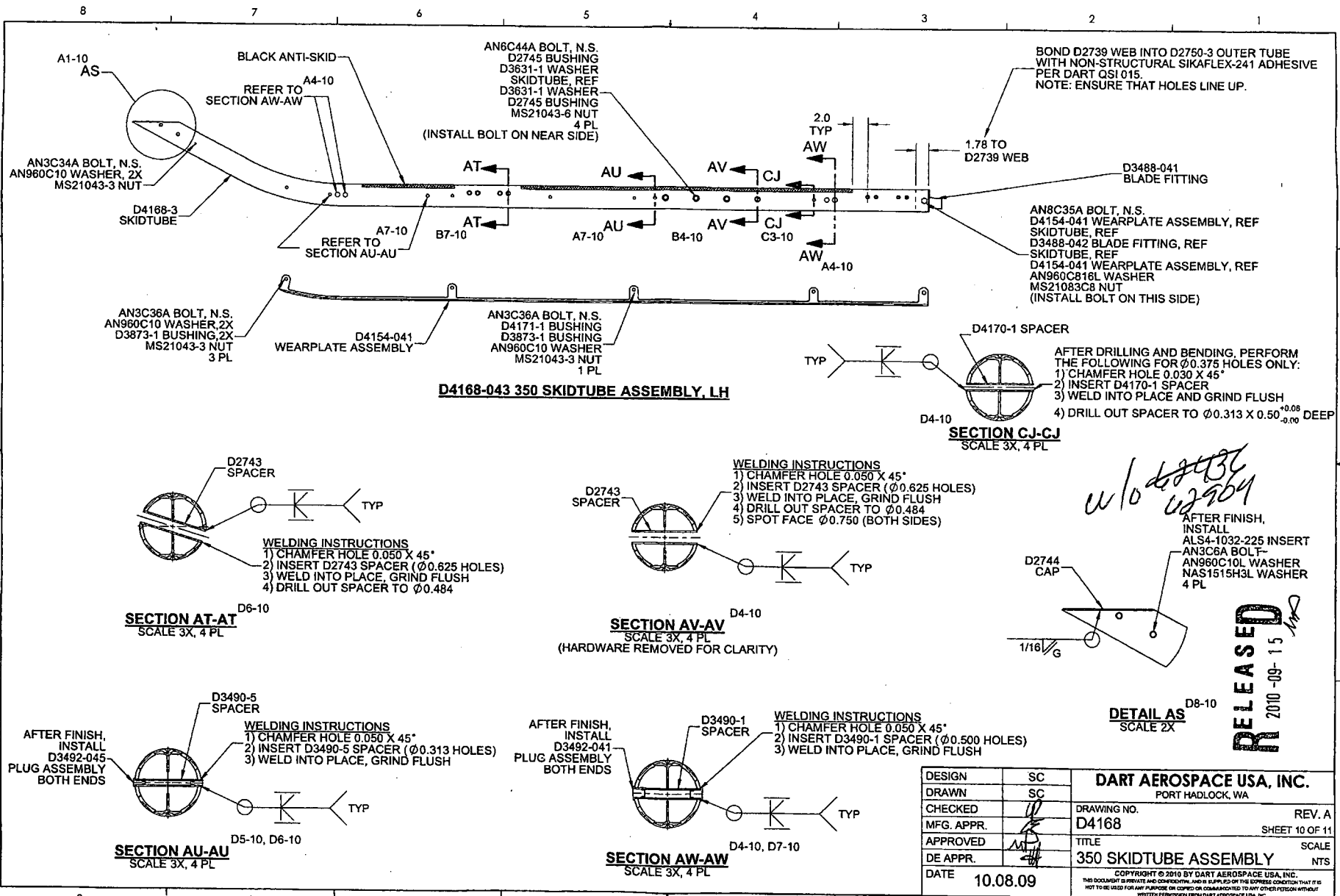
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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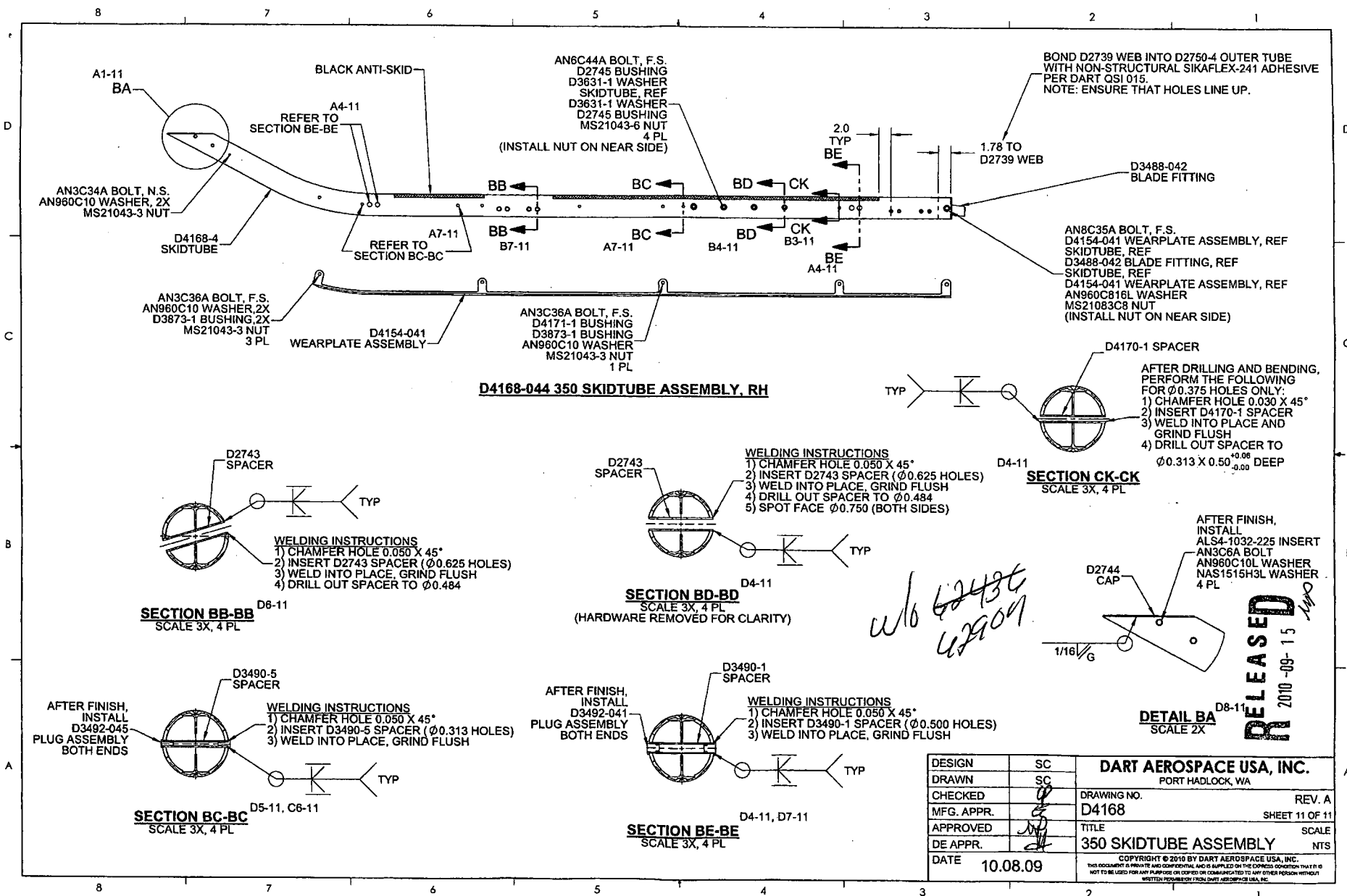
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 236

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 60988
Part number: D350-436-02
Description: 350 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier [Signature] Date of Test Coupon 10.08.12

Welder [Signature] Date of Test Coupon 10.08.12

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

8.0 PARTS LIST

(D350-636-015/-016/-017/-018/-047 KITS)

Item	Qty -015	Qty -016	Qty -017	Qty -018	Qty -047	Part Number	Description
	X					D350-636-015	SKIDTUBE INSTALLATION, LH, STD AERAZUR/APICAL CYLINDRICAL FLOAT COMPATIBLE W/ TRAINING WEARPLATE
		X				D350-636-016	SKIDTUBE INSTALLATION, RH, STD AERAZUR/APICAL CYLINDRICAL FLOAT COMPATIBLE W/ TRAINING WEARPLATE
			X			D350-636-017	SKIDTUBE INSTALLATION, LH AIRCRAUSER/ APICAL TRI-BAG FLOAT COMPATIBLE W/ TRAINING WEARPLATE
				X		D350-636-018	SKIDTUBE INSTALLATION, RH AIRCRAUSER/ APICAL TRI-BAG FLOAT COMPATIBLE W/ TRAINING WEARPLATE
					X	D350-636-047	TRAINING WEARPLATE KIT (LH/RH)
1	1					D4168-041	SKIDTUBE ASSEMBLY, LH
1		1				D4168-042	SKIDTUBE ASSEMBLY, RH
1			1			D4168-043	SKIDTUBE ASSEMBLY, LH
1				1		D4168-044	SKIDTUBE ASSEMBLY, RH
*1	1					D4168-1	SKIDTUBE WELDMENT, LH
*1		1				D4168-2	SKIDTUBE WELDMENT, RH
*1			1			D4168-3	SKIDTUBE WELDMENT, LH
*1				1		D4168-4	SKIDTUBE WELDMENT, RH
**2	8	8	8	8		350A41-1027-20	SCREW
**3	8	8	8	8		23119AG120LE	WASHER
*4	8	8	8	8		22541N120	NUT
*5	1	1	1	1		AN8C35A	BOLT
*6A	1	1	1	1		AN960C816L	WASHER (OR NAS1149CO832R)
*7	1	1	1	1		MS21083C8	NUT
*8	1		1			D3488-041	BLADE FITTING, LH
*8		1		1		D3488-042	BLADE FITTING, RH
9	1	1	1	1		D2741	BLADE
10	2	2	2	2		AN8C21A	BOLT
11	2	2	2	2		AN960JD816	WASHER (OR NAS1149CO863J)
12	2	2	2	2		MS21083C8	NUT
*14	4	4	4	4		AN6C44A	BOLT
*15	8	8	8	8		D2745	BUSHING
*16	4	4	4	4		MS21043-6	NUT
*17	8	8	8	8		D3631-1	WASHER
*18	4	4	4	4		ALS4-1032-225	INSERT
*19	4	4	4	4		AN3C6A	BOLT
*20A	4	4	4	4		AN960C10L	WASHER (OR NAS1149CO332R)
*20B	4	4	4	4		NAS1515H3L	WASHER
*30	8	8	8	8		D3492-041	PLUG ASSEMBLY
*31	8	8				D3492-043	PLUG ASSEMBLY
*32			8	8		D3492-045	PLUG ASSEMBLY

(CONTINUED ON NEXT PAGE)

(CONTINUED FROM PREVIOUS PAGE)

Item	Qty -015	Qty -016	Qty -017	Qty -018	Qty -047	Part Number	Description
***43	2	2	2	2		D3493-1	WASHER
*90	1	1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
*91A	4	4	4	4	4	AN3C36A	BOLT ¹
91B	1	1	1	1	1	AN3C37A	BOLT ²
91C	1	1	1	1	1	AN3C42A /	BOLT ³
*92	7	7	7	7	8	AN960C10	WASHER (OR NAS1149CO363R)
92A			1	1		AN960C10	WASHER (OR NAS1149CO363R) ³
*93	4	4	4	4	4	MS21043-3	NUT
*94	7	7	7	7	8	D3873-1 /	BUSHING
94A			1	1		D3873-1	BUSHING ³
*95	1	1	1	1	1	D4171-1	BUSHING ⁴
*96	4	4	4	4	4	D4170-1 /	SPACER
*97	1	1	1	1	1	AN3C34A	BOLT
*98	2	2	2	2	2	AN960C10	WASHER (OR NAS1149CO363R)
*99	1	1	1	1	1	MS21043-3	NUT

* PART OF D4168-041/-042/-043/-044

** TO BE SUPPLIED BY CUSTOMER

*** ONLY INSTALLED IF INSTALLING AN APICAL FLOAT SYSTEM

¹ QTY USED MAY BE LESS ON SKIDTUBES WITH APICAL CYLINDRICAL OR TRI-BAG FLOATS² HARDWARE USED ON THE SKIDTUBES INSTALLED WITH APICAL CYLINDRICAL BAG FLOATS³ HARDWARE USED ON THE SKIDTUBES INSTALLED WITH APICAL TRI-BAG FLOATS⁴ HARDWARE NOT USED ON THE SKIDTUBES INSTALLED WITH APICAL TRI-BAG FLOATS

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Revision: H

Date: 10.07.26